

REMARKS

Claims 1-19 are pending in the present application. Claims 1-7 have been amended. Claims 10-19 have been added. Claim 1 has been amended by, for instance, canceling the subject matter wherein R^1 is a C_{19} - C_{24} aliphatic hydrocarbon group and by canceling the R^2 groups which are present only when R^1 is a C_{19} - C_{24} . This canceled subject matter has now been submitted as new claim 11. Claim 1 has also been amended by changing the range of values for m from 0 to 15 to now recite "2 to 15". New claim 12 is also directed to this subject matter. These amendments are supported by the specification in the Examples of Table 1. Claim 2, as amended, now recites that the phosphate salt (B) is present in an amount of 30 to 60 weight % based on the water-permeable agent. Support for this amendment can be found in Table 1, Examples 1-8. Similarly, Table 1, Examples 1-8 also support new claim 10 which is directed to a water-permeable agent wherein the quaternary ammonium salt is present in an amount of 40 to 70 weight % based on the water-permeable agent. New claims 13-19 are supported by original claims 3-9. Accordingly, no new matter has been added by way of the above amendments.

Issues under 35 USC § 103

Claims 1-3 and 5-8 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al., (Kato 1) (US 4,988,449 A). Claims 4 and 9 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Kato 1 in view of Kato et al. (Kato 2) (US 5,258,129 A). These rejections are respectfully traversed. Reconsideration and withdrawal thereof are requested.

Applicants' Invention

Applicants' Invention is directed to a water-permeable agent comprising a quaternary ammonium salt (A) and a phosphate salt (B). In claim 1, R^1 and R^2 of formula (I) (component A) are each independently a C_8 to C_{18} aliphatic hydrocarbon group. Within Formula (II) (component B) m is defined as an integer from 2 to 15 and thus the phosphate salt (B) contains an ethylene oxide and/or propylene oxide group. In claim 11, R^1 of formula (I) (component A) is a C_{19} to C_{24} aliphatic hydrocarbon group. In both claim 1 and claim 11, one of component A and B is present at 20 to 80 weight % and the other of component A and B is present at 80 to 20 weight % of the total of the quaternary ammonium salt (A) and the phosphate salt (B).

Kato 1

Kato 1 describes fluid-permeable agents for providing fluid-permeability to non-woven fabric sheets of polyolefin fibers. These agents contain 70-90 weight % of an aliphatic diethanol amide of formula (A) and 5-30 weight % of at least one surfactant. The surfactant can be a non-ionic surfactant, an alkyl phosphate salt of formula (B), a quaternary ammonium salt of formula (C) and/or an alkyl imidizolinium salt of formula (D).

The composition of Kato 1 differs from the composition of claim 1 in the phosphate salt. The phosphate salt (B) of the invention contains 2 to 15 ethylene oxide or propylene oxide groups since R^6 is an ethylene and/or propylene group and m is 2-15. By contrast, in the phosphate salt of Kato 1 (formula B) one or two C_{12} - C_{18} alkyloxy groups are required as compared to the ethylene oxide and propylene oxide groups of the invention. The unexpected advantage of Applicants' composition comprising a phosphate salt containing an ethylene oxide and/or propylene oxide group is that the composition exhibits improved initial permeability while maintaining high permanent permeability as compared with a composition, such as in Kato 1, which is lacking an ethylene or propylene oxide-containing phosphate salt. There is no teaching in Kato 1 which would motivate one of ordinary skill in the art to add an ethylene and/or propylene group to the phosphate salt of Kato 1. Therefore, absent this requisite motivation, Applicants' invention is not obvious in view of Kato 1.

The composition of Kato 1 differs from the composition of claim 11 in the ammonium salt. The ammonium salt of the invention (A) requires a C_{19} - C_{24} aliphatic hydrocarbon group (R^1). By contrast, the ammonium salt of Kato 1 contains a corresponding alkyl group of 12-18 carbon atoms. Kato 1 provides no motivation for the skilled artisan to increase the alkyl chain length in the ammonium salt of Kato 1 in order to arrive at Applicants' invention. Therefore, claim 11 of the invention is not obvious in view of Kato 1.

The instant claims can be further distinguished from Kato 1 as follows. The Examiner asserts that “the range of compounds Kato selects varies from 5 to 100%” referring to Table 1. However, the phosphate salt and quaternary ammonium salt are present at 5 to 30% (see claim 1 and Table 1 of Kato 1) based on the total amount of fluid-permeable agent. Claims 1 and 11 of Applicants’ invention recite that one of component A (quaternary ammonium salt) and component B (phosphate salt) is present at 20 to 80 weight % and the other of component A and B is present at 80 to 20 weight % of the total of the quaternary ammonium salt (A) and the phosphate salt (B). This is not the same as the Kato 1 ratio which is based on the total amount of fluid-permeable agent. Applicants’ would like to point out that in the Examples of the invention, a ratio corresponding to that of Kato 1 can be calculated based on the values described therein. When presented as a percentage of the water-permeable agent, the values for the quaternary ammonium salt (A) are 40-70 weight % and the values for the phosphate salt (B) are 30-60 weight %. This is outside the scope taught by Kato 1 and therefore is not obvious in view of the disclosure of Kato 1.

Accordingly, a *prima facie* case of obviousness has not been established with respect to Kato 1, and Applicants respectfully request that the rejection be withdrawn.

Kato 2

Claims 4 and 9 are directed to the water-permeable agent of claim 1 which further comprises 5-20 weight % of a polyoxyalkylene-modified silicone of formula (III). The rejection relies on Kato 2 to cure the deficiency of Kato 1 which does not teach the modified silicone of claims 4 and 9. However, Kato 2 differs from the invention as follows.

The fluid-permeable agent of Kato 2 contains the polyoxyalkylene-modified silicone in an amount of 50-100% but further discloses that “if the content is less than 55 wt %, sufficient fluid permeability and durability cannot be obtained.” (col. 3, lines 55-60). Applicants would like to add that when the modified silicone is used in an amount of 55% or greater, scum and stain are produced and the oil agent falls off in the processing step. Claim 4 of the invention recites that the polyoxyalkylene-modified silicone is present in an amount of 5-20 wt %. This claimed range is not only outside the scope of Kato 2, but Kato 2 additionally teaches away from Applicants’ invention by the statement cited above.

Kato 2 also fails to teach the ammonium salt (A) of claim 11 of the invention, which requires a C₁₉-C₂₄ aliphatic hydrocarbon group (R¹). By contrast, the ammonium salt of Kato 2 contains a corresponding alkyl group of 12-18 carbon atoms.

The composition of Kato 2 also differs from the composition of claim 1 in the phosphate salt. The phosphate salt of the invention (B) contains 2 to 15 ethylene oxide or propylene oxide groups, but the phosphate salt of Kato 2 (formula B) contains one or two C₁₂-C₁₈ alkyloxy. As noted above, the unexpected advantage of Applicants' composition comprising a phosphate salt containing an ethylene oxide and/or propylene oxide group is that the composition exhibits improved initial permeability while maintaining high permanent permeability as compared with a composition, such as in Kato 1 and Kato 2, which is lacking an ethylene or propylene oxide-containing phosphate salt. Thus, in the compositions of Kato 1 and Kato 2 initial permeability can be improved, but permanent permeability cannot be improved at the same time. This is the unexpected advantage of Applicants' invention.

Inasmuch as Kato 1 does not make Applicants' invention *prima facie* obvious for the reasons set forth above, and since the deficiencies of Kato 1 are not cured by a combination with Kato 2, Applicants assert that the rejections over these references should be withdrawn.

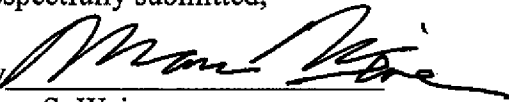
In view of the above amendment, applicant believes the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Marc S. Weiner, Reg. No. 32,181 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.147; particularly, extension of time fees.

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Respectfully submitted,

By 

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